



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,727	12/26/2001	Sukanta Banerjee	4364-4005	1379

23973 7590 12/05/2005

DRINKER BIDDLE & REATH
ATTN: INTELLECTUAL PROPERTY GROUP
ONE LOGAN SQUARE
18TH AND CHERRY STREETS
PHILADELPHIA, PA 19103-6996

EXAMINER

YANG, NELSON C

ART UNIT

PAPER NUMBER

1641

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/034,727	Applicant(s) BANERJEE ET AL.	
	Examiner Nelson Yang	Art Unit 1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 82-91 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 82-91 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Applicant's amendment of claims 82 and 83 is acknowledged and has been entered.
2. Claims 82-91 are currently pending.

Rejections Withdrawn

3. The provisional rejection of claims 82-91 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 53-67 of copending Application No. 10/176551 (US 2003/0138842) has been withdrawn, as the conflicting claims in the copending application have been cancelled.

Information Disclosure Statement

4. The listing of references in the Search Report is not considered to be an information disclosure statement (IDS) complying with 37 CFR 1.98. 37 CFR 1.98(a)(2) requires a legible copy of: (1) each foreign patent; (2) each publication or that portion which caused it to be listed; (3) for each cited pending U.S. application, the application specification including claims, and any drawing of the application, or that portion of the application which caused it to be listed including any claims directed to that portion, unless the cited pending U.S. application is stored in the Image File Wrapper (IFW) system; and (4) all other information, or that portion which caused it to be listed. In addition, each IDS must include a list of all patents, publications, applications, or other information submitted for consideration by the Office (see 37 CFR 1.98(a)(1) and (b)), and MPEP § 609.04(a), subsection I. states, "the list ... must be submitted on a separate paper." Therefore, the references cited in the Search Report have not been considered. Applicant is advised that the date of submission of any item of information or any missing

Art Unit: 1641

element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the IDS, including all "statement" requirements of 37 CFR 1.97(e). See MPEP § 609.05(a).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 82-91 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. With respect to claim 82, applicant recites the limitation of differently encoded beads. However, in the same claim, applicant recites that the member beads are encoded with a label. It is unclear how the beads would be encoded differently with a label, rendering the claim ambiguous. It is currently interpreted that the member beads are encoded with different labels, such that differently encoded beads have different biomolecules on their surface.

8. The remaining claims are indefinite due to their dependence on an indefinite claim.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this

Art Unit: 1641

subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 82, 83, 85, 86, 89, 91 are rejected under 35 U.S.C. 102(e) as being anticipated by Walt et al [US 6,327,410].

With respect to claim 82, Walt et al teach a polymer-bead assembly comprising three dimensional configurations created by embedding beads in a porous block of plastic that allows sample access to the beads and using a confocal microscope for detection (column 5, lines 48-55). The beads comprise subpopulations of microspheres with unique optical signatures or tags generated by a mixture of reporter dyes that can be used to identify the unique bioactive agent of each subpopulation of microspheres (column 13, lines 10-45).

11. With respect to claim 83, the different dyes would emit different wavelengths (colors) (column 14, lines 24-50).

12. With respect to claims 85-86, the bioactive agents may be DNA or RNA (column 11, lines 23-40).

13. With respect to claim 89, the beads can be from 0.2 μm to 200 μm (column 7, lines 33-41).

14. With respect to claim 91, the beads may comprise paramagnetic materials (column 7, lines 20-30).

15. Claim 84 is rejected under 35 U.S.C. 102(e) as being anticipated by Walt et al [US 6,327,410] in light of Domschke et al [US 6,897,271].

With respect to claim 84, Walt teach that the substrate may be comprised of acrylics (column 5, lines 36-42), which one of ordinary skill in the art would know to be hydrophilic, as evidenced by Domschke et al (column 2, lines 63-68).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claim 90 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al [US 6,327,410] in view of Schulz et al [US 4,663,408].

Walt et al teach a polymer-bead assembly comprising three dimensional configurations created by embedding beads in a porous block of plastic that allows sample access to the beads and using a confocal microscope for detection (column 5, lines 48-55). The beads comprise subpopulations of microspheres with unique optical signatures or tags generated by a mixture of reporter dyes that can be used to identify the unique bioactive agent of each subpopulation of microspheres (column 13, lines 10-45). Walt et al do not teach that the polymer comprises cross-linked alkyl acrylamide or hydroxylalkyl acrylate hydrogel.

Schulz et al, however, teach that long chain alkyl acrylamide enhance the viscosification efficiency of the copolymers they are in (column 1, lines 62-65).

Therefore, it would have been obvious to one of ordinary skill in the art for the polymer in the invention of Walt et al to comprise alkyl acrylamide, as suggested by Schulz et al, in order to increase the viscosification efficiency of the polymer matrix.

18. Claims 87-88 is rejected under 35 U.S.C. 103(a) as being unpatentable over Walt et al [US 6,327,410] in view of Bryan et al [US 6,458,547].

Art Unit: 1641

With respect to claims 87-88, Walt et al teach a polymer-bead assembly comprising three dimensional configurations created by embedding beads in a porous block of plastic that allows sample access to the beads and using a confocal microscope for detection (column 5, lines 48-55). The beads comprise subpopulations of microspheres with unique optical signatures or tags generated by a mixture of reporter dyes that can be used to identify the unique bioactive agent of each subpopulation of microspheres (column 13, lines 10-45). Walt et al do not teach that the biochips comprise a silicon chip.

Bryan et al, however, teach the use of silicon chips (column 14, lines 14-21, 45-50), and further teach that the chip is adaptable for use in an array format for the detection and identification of agents in a biological sample with the device (column 5, lines 20-25), using circuits for integrating the output data signals and accumulating them, and further generating an output device signal, in order to generate visible indicia related to the presence of the analytes (column 5, lines 45-55).

Therefore, it would have been obvious to one of ordinary skill in the art for the substrate to be a silicon chip in the device of Walt et al et al, as suggested by Bryan et al, in order to adapt the device for use in the detection and identification of analytes and generation of visible indicia related to the presence of the analytes.

Response to Arguments

19. Applicant's arguments with respect to claims 82-91 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. No claims are allowed.

Art Unit: 1641

21. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

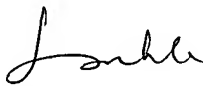
22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nelson Yang whose telephone number is (571) 272-0826. The examiner can normally be reached on 8:30-5:00.

23. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on (571)272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1641

24. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nelson Yang
Patent Examiner
Art Unit 1641


LONG V. LE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600
11/28/05